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Double Patenting

The Examiner has rejected claims 1-10, stating that these claims conflict with claims 1-10 of U.S. Patent Application No. 09/945,350. The Examiner cites 37 CFR 1.78(b), stating that when two or more applications filed by the same Applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. The Examiner concludes that Applicants are therefore required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications.

In view of this rejection, Applicants will cancel claims 1-10 in copending U.S. Patent Application No. 09/945,350, making the rejection of claims 1-10 from the present application moot.

Rejection of Claims under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-10 and 16-49 as being unpatentable over Boes et al. (U.S. Patent No. 5,807,494) in view of Betz et al. (U.S. Patent No. 5,653,875).

On page 2 of the Office Action, the Examiner states that Boes et al. discloses the formation of gel compositions having carbon with an organic group attached to the carbon and states that the groups are similar to those presently claimed. The Examiner further states that Boes et al. is silent on the use of the adsorbents in chromatography.

However, the Examiner also states that Betz et al. teaches the use of such carbon containing adsorbents in chromatography. The Examiner therefore concludes that the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of Boes et al. with the teaching of Betz et al. because Betz et al. teaches that carbon compounds can be use in chromatography.

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Applicants respectfully disagree. The present invention relates to separation devices and processes that use modified carbonaceous materials as adsorbents. Claim 1, as well as claims dependent therefrom, relate to a chromatography column comprising a column having a stationary phase and a mobile phase, wherein the stationary phase comprises carbonaceous material having attached at least one organic group. Claim 5 and claims dependent therefrom relate to a separation device comprising a mobile phase and a stationary phase, wherein the stationary phase comprises carbonaceous material having attached at least one organic group. Claim 6 and claims dependent therefrom relate to a separation method comprising passing a substance through a system which comprises a mobile phase and a stationary phase, wherein the stationary phase comprises carbonaceous material having attached at least one organic group.

By comparison, Boes et al. relates to gel compositions comprising a carbonaceous component and a gel component. In one embodiment, the carbonaceous component is a carbon black product having attached at least one organic group, and various organic groups are disclosed. Methods for forming such gel compositions are described (see column 6, line 38 to column 7, line 12) and involve adding the carbonaceous component to a preformed sol and gelling the mixture. Thus, Boes et al. relates to a gel composition comprising a carbonaceous material having attached at least one organic group and not the carbonaceous material itself. Also, as noted by the Examiner, there is no teaching or suggestion in Boes et al. of the use of an adsorbent in chromatography.

To overcome this deficiency, the Examiner relies on Betz et al. Betz et al. relates to adsorption systems in which adsorbent bodies comprising a nucleophilic material, such as carbon, silica, alumina or a polymer having a hydrocarbon moiety, is bonded to a substrate via a siloxane polymer, preferably via a direct C-Si bond (see column 1, lines 13-20). Chromatographic columns in which these adsorbent bodies are bonded to the surface are also disclosed. However, there is no disclosure, teaching, or suggestion of a gel composition.

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Therefore, Applicants believe that one skilled in the art would not be motivated to ~~use the~~ gel composition of Boes et al. in the chromatographic column of Betz et al. since these references make use of very different materials. Also, Boes et al. does not disclose chromatography, and this is the focus of Betz et al. Thus, Boes et al. and Betz et al. are unrelated art, and Applicants believe that they cannot be combined.

Even if one were to combine these references as suggested by the Examiner, which Applicants do not believe can be done, the result would not be the chromatography column, the separation device, or method of the present invention. For example, Applicants believe that if one skilled in the art combined the teaching of these references, the combination may result in use of the gel composition of Boes et al. as the adsorbent body of Betz et al. in a chromatography column. Since the gel composition is not a carbonaceous material having attached at least one organic group, as in the present claims, the resulting chromatography column would not be the chromatography column, separation device, or method of the present claims.

Alternatively, Applicants believe that if one skilled in the art were to combine these references, which Applicants do not believe can be done, the combination may result in the use of the adsorbent body of Betz et al. as the carbonaceous component to form the gel composition of Boes et al. However, since Boes et al. does not disclose the use of adsorbents in chromatography, the resulting combination would not be the chromatography column of claim 1, the separation device of claim 5, or the method of separation of claim 6.

In either case, the resulting combination of the teachings of Boes et al. and Betz et al. does not result in the subject matter of the present claims. Therefore, Applicants believe that claims 1, 5, and 6 are patentable over Boes et al. in view of Betz et al. Furthermore, claims 2-4, 7-10, and 16-49, which depend directly or indirectly from claims 1, 5, or 6, recite further embodiments of the present invention and, for at least the reasons discussed above, are also patentable over these references.

Applicants therefore believe that claims 1-10 and 16-49 are patentable over Boes et al. in view of Betz et al. and respectfully request that this rejection be withdrawn.


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Conclusion

In view of the foregoing remarks, Applicants believe that this application is considered to be in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would further expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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Date: February 24, 2005
Attorney Docket No.: 96074CIP